



## CITY OF BELLEVUE

In Partnership with the  
University of Washington

### IMPROVING WALKABILITY IN NORTHEAST BELLEVUE

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Livable City Year 2018–2019  
in partnership with  
City of Bellevue

FALL 2018





Livable City Year 2018–2019  
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City of Bellevue  
[www.washington.edu/livable-city-year/](http://www.washington.edu/livable-city-year/)



*The LCY student team in Gould Hall, from left to right: Michael Monroe, Jonas Geier, Catarina Ratajczak, Gustavo O'Connell, and Sophia Nelson. TERI THOMSON RANDALL*

## ACKNOWLEDGMENTS

Our team would like to extend a special thank you to City of Bellevue Senior Planner Nicholas Matz who helped us navigate this project creatively and constructively. He received our work with a positive and open mind and was consistently a great point of reference for us. Furthermore, we would like to thank the participants of our focus group: Northeast Bellevue residents Els Blomme, Michelle Niethammer, Patrick Tousignant, and Jerome Taylor. They each took time from their schedules to share insights about living in their neighborhood, as well as ways their neighborhood's walkability could be improved. The focus group session was a significant milestone for our team; it expanded our understanding and influenced our project's outcome.



## ABOUT LIVABLE CITY YEAR

The University of Washington's Livable City Year (LCY) initiative is a partnership between the university and one local government for one academic year. The program engages UW faculty and students across a broad range of disciplines to work on city-defined projects that promote local sustainability and livability goals. Each year hundreds of students work on high-priority projects, creating momentum on real-world challenges while serving and learning from communities. Partner cities benefit directly from bold and applied ideas that propel fresh thinking, improve livability for residents, and invigorate city staff. Focus areas include environmental sustainability; economic viability; population health; and social equity, inclusion and access. The program's 2018–2019 partner is the City of Bellevue; this follows partnerships with the City of Tacoma (2017–2018) and the City of Auburn (2016–2017).

LCY is modeled after the University of Oregon's Sustainable City Year Program, and is a member of the Educational Partnerships for Innovation in Communities Network (EPIC-N), an international network of institutions that have successfully adopted this new model for community innovation and change. For more information, contact the program at [uwlcyl@uw.edu](mailto:uwlcyl@uw.edu).



## ABOUT CITY OF BELLEVUE

Bellevue is the fifth largest city in Washington, with a population of more than 140,000. It's the high-tech and retail center of King County's Eastside, with more than 150,000 jobs and a skyline of gleaming high-rises. While business booms downtown, much of Bellevue retains a small-town feel, with thriving, woodsy neighborhoods and a vast network of green spaces, miles and miles of nature trails, public parks, and swim beaches. The community is known for its beautiful parks, top schools, and a vibrant economy. Bellevue is routinely ranked among the best mid-sized cities in the country.

The city spans more than 33 square miles between Lake Washington and Lake Sammamish and is a short drive from the Cascade Mountains. Bellevue prides itself on its diversity. Thirty-seven percent of its residents were born outside of the US and more than 50 percent of residents are people of color, making the city one of the most diverse in Washington state.

Bellevue is an emerging global city, home to some of the world's most innovative technology companies. It attracts top talent makers such as the University of Washington-Tsinghua University Global Innovation Exchange. Retail options abound in Bellevue and artists from around the country enter striking new works in the Bellwether arts festival. Bellevue's agrarian traditions are celebrated at popular seasonal fairs at the Kelsey Creek Farm Park.

Bellevue 2035, the City Council's 20-year vision for the city, outlines the city's commitment to its vision: "Bellevue welcomes the world. Our diversity is our strength. We embrace the future while respecting our past." Each project completed under the Livable City Year partnership ties to one of the plan's strategic areas and many directly support the three-year priorities identified by the council in 2018.



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**BELLEVUE 2035:  
THE CITY WHERE YOU WANT TO BE**

*Improving Walkability in Northeast Bellevue* supports the *Bellevue: Great Places Where You Want to Be* target area of the Bellevue City Council Vision Priorities and was sponsored by the Department of Community Development.



**BELLEVUE: GREAT PLACES WHERE YOU WANT TO BE**

**Bellevue is the place to be inspired by culture, entertainment, and nature. Learn, relax, shop, eat, cook, read, play, or marvel at our natural environment.** Whatever your mood, there is a place for you in Bellevue.

From the sparkling waters of Meydenbauer Bay Park, you can walk or bike east, through Downtown, across the Grand Connection to the Wilburton West center for business and entertainment. Along the way you enjoy nature, culture, street entertainment, a world fusion of food, and people from all over the planet.

For many of us, Bellevue is home. For the rest of the region and the world, Bellevue is a destination unto itself.

The arts are celebrated. Bellevue's Performing Arts Center is a success, attracting the best in onstage entertainment. Cultural arts organizations throughout the city are supported by private philanthropy and a cultural arts fund. Arts and cultural opportunities stimulate our creative class workers and residents, whether they are members of the audience or performers. The cultural arts attract Fortune 500 companies to our community, whether it is to locate their headquarters or visit for a convention.

The past is honored. Residents experience a sense of place through an understanding of our history.

Our community buildings, libraries, community centers, City Hall, and museums provide places where neighbors gather, connect with each other, and support our civic and business institutions.

Bellevue College, the Global Innovation Exchange (GIX), and our other institutes of higher learning are connected physically and digitally from Eastgate to Bel-Red, Downtown, and the University of Washington in Seattle. We've leveraged our commitment to higher education into some of the most successful new companies of the future.

From the constant beat of an urban center, you can quickly escape into nature in our parks, streams, trails, and lakes. You can kayak the slough, hike the lake-to-lake trail, and have the opportunity to enjoy the latest thrill sport.

**BELLEVUE 2035:  
THE CITY WHERE YOU WANT TO BE**

*Bellevue welcomes the world. Our diversity is our strength.  
We embrace the future while respecting our past.*

The seven strategic target areas identified in the Bellevue City Council Vision Priorities are:



**ECONOMIC DEVELOPMENT**

Bellevue business is global and local.



**TRANSPORTATION AND MOBILITY**

Transportation is both reliable and predictable. Mode choices are abundant and safe.



**HIGH QUALITY BUILT AND NATURAL ENVIRONMENT**

From a livable high-rise urban environment to large wooded lots in an equestrian setting, people can find exactly where they want to live and work.



**BELLEVUE: GREAT PLACES WHERE YOU WANT TO BE**

Bellevue is a place to be inspired by culture, entertainment, and nature.



**REGIONAL LEADERSHIP AND INFLUENCE**

Bellevue will lead, catalyze, and partner with our neighbors throughout the region.



**ACHIEVING HUMAN POTENTIAL**

Bellevue is caring community where all residents enjoy a high quality life.



**HIGH PERFORMANCE GOVERNMENT**

People are attracted to live here because they see that city government is well managed.

For more information please visit: <https://bellevuewa.gov/city-government/city-council/council-vision>



# EXECUTIVE SUMMARY

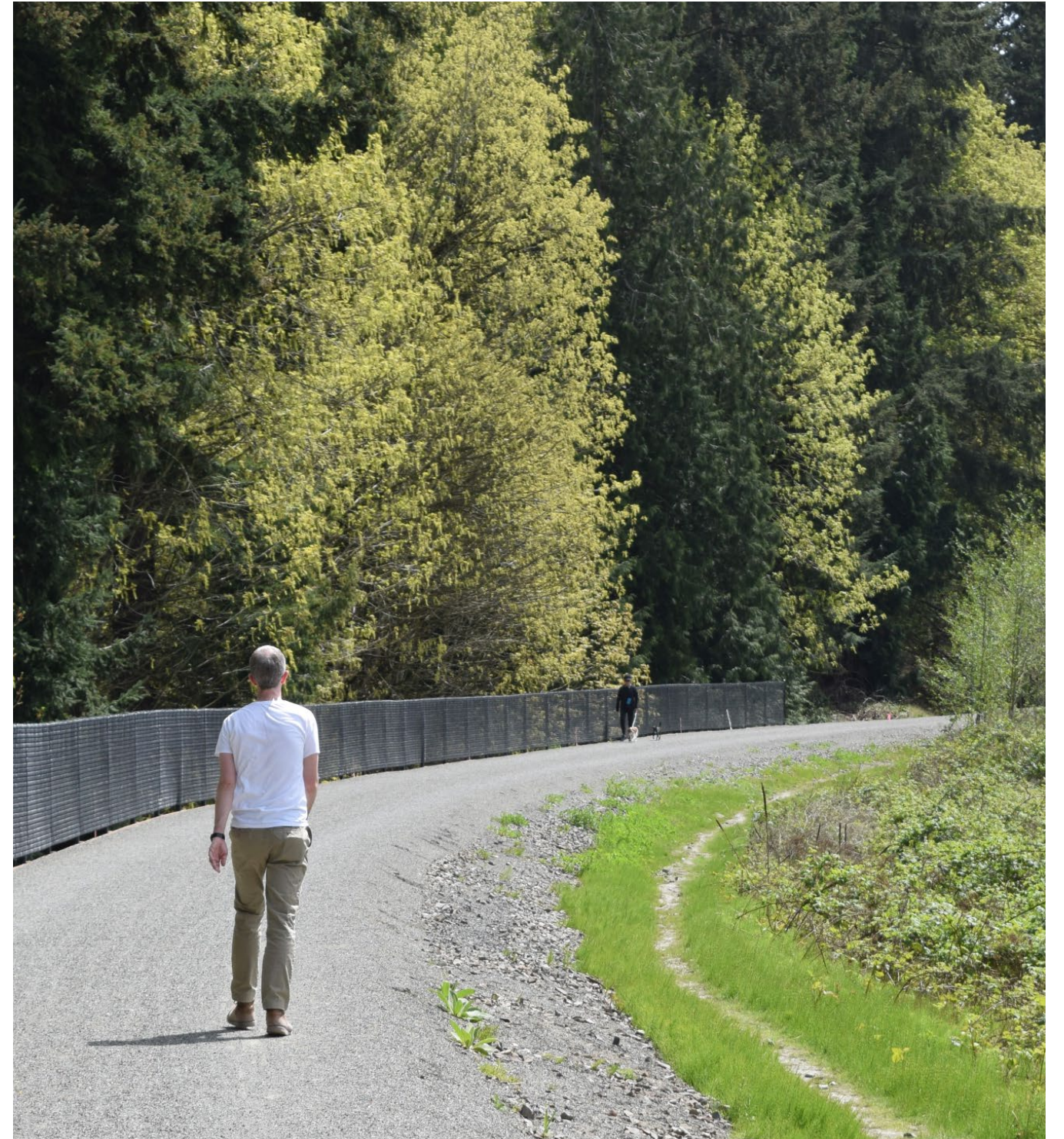
This Livable City Year project serves as a lens for viewing mobility features of Northeast Bellevue (NE Bellevue). Carried out in conjunction with the University of Washington's Urban Design and Planning department, undergraduate students analyzed general mobility, and, more specifically, the walkability and bikeability of NE Bellevue. The primary goal has been to consider ways to increase accessibility, safety, and efficiency of non-driving modes of transportation in the context of NE Bellevue. In this report, the term mobility refers specifically to non-driving modes of transportation, such as walking and biking. Student researchers have identified opportunities to improve urban infrastructure for these modes of transportation, and they have created a list of implementation suggestions for the City of Bellevue.

This project complements the City of Bellevue's Pedestrian and Bicycle Transportation Plan, especially its goals of making NE Bellevue a more equitable and accessible neighborhood for residents who walk and bike. Further, and instrumentally, this project serves as a way to promote and expand resident engagement on topics related to mobility, and to facilitate community-based planning in Bellevue. This is important because the topics of this report affect the daily life of residents.

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This project serves as a way to promote  
and expand resident engagement  
on topics related to mobility, and to  
facilitate community-based  
planning in Bellevue.

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*People walking on the Eastside Rail Corridor Trail. CITY OF BELLEVUE*



## DEVELOPING PRELIMINARY UNDERSTANDINGS

Student researchers began their work with a review of the City of Bellevue’s existing Pedestrian and Bicycle Transportation Plan; this provided essential background information about what the City is already doing to plan around mobility options. It also introduced students to the way the City designs planning documents. Next, students conducted a focus group session with five NE Bellevue residents to find out how they feel about general mobility and walkability of their neighborhood. This enabled students to understand how residents of Northeast Bellevue perceive and interact with their local environment. The focus group participants highlighted aspects of their neighborhood they like: They emphasized the value of living in a quiet, secluded neighborhood; and they expressed appreciation for their neighborhood’s proximity to other parts of Bellevue. Participants also spoke about features that could be improved, highlighting congestion along certain arterials and the lack of safe and connected pedestrian and bike infrastructure throughout the neighborhood, especially along outer arterials.

## CONDUCTING A GEHL ANALYSIS

Students conducted a Gehl Analysis to help them quantify qualitative, human-scale attributes of NE Bellevue. Using this tool, students aimed to generate an experience-based perspective of the area. Students selected three NE Bellevue study sites for their analysis, measured each site against Gehl’s twelve “criteria of urban quality,” and attributed a score to each site based on a scale of one to three. In their work, students found that certain parts of NE Bellevue are friendlier to pedestrians and bicyclists than others due to a variety of factors, including the presence of sidewalks, condition of infrastructure, street lighting, the surrounding natural environment, protection from traffic, and other urban design elements. The highest-scoring site scored a 2.9 out of 3; students attribute its score to wide sidewalks, access to green space, and the natural environment that surrounds the Tam O’Shanter Golf Course. The lowest-scoring site received a score of 1.5 out of 3, attributed to a lack of continuous sidewalks along main arterials and side streets, and to a lack of safe crosswalks at large intersections and steep slopes

## GIS SPATIAL ANALYSIS

Using the information gleaned from other study methods, students conducted a spatial analysis of NE Bellevue to offer a different perspective of the neighborhood’s mobility. Students used Geographic Information Systems (GIS) software to determine service areas for parks, places of worship, and schools. Their analysis illustrates the areas of the neighborhood that are walkable within quarter- and half-mile radiuses along street and trail networks. Overall, while most parts of the neighborhood are walkable to parks, many parts of NE Bellevue are not walkable to schools and places of worship based on walking distances alone. Additionally, students noted that even when a given destination is relatively close to a person’s home, it may not be easy to access via walking or riding a bike due to indirect and difficult-to-navigate street networks and topography

## RECOMMENDATIONS TO IMPROVE WALKABILITY

Students applied the results of their analyses and other research methods to develop a set of suggestions and strategies for the City of Bellevue to improve walkability of NE Bellevue. Students have incorporated themes and evidence from their research, as well as elements of the City’s existing Pedestrian and Bicycle Transportation Plan in their recommendations. Common threads, such as the need for accessible, continuous sidewalk infrastructure, inform the suggestions of this document and are captured below:

1. Prioritize connectivity for walking and biking via improved infrastructure for pedestrians and cyclists.
2. Prioritize safety for pedestrians and cyclists in Northeast Bellevue.
3. Normalize walking and biking as viable methods of transportation (made practicable by implementing supportive infrastructures).
4. Ensure that suburban lifestyles coexist with multimodal transportation.

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Even when a destination is close to a person’s home, it may not be walkable to them due to indirect and difficult-to-navigate street networks and topography.

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# INTRODUCTION

During the Fall Quarter of 2018, Livable City Year (LCY) partnered with the City of Bellevue to provide undergraduate students enrolled in the course, CEP 461: Planning in Context, an opportunity to work with planning professionals on real-world urban planning problems. Project topics included walkability, neighborhood engagement, and trail-oriented development.

This report presents the results of a project in which a team of five students assessed the walkability and bikeability of Northeast Bellevue (NE Bellevue).

NE Bellevue is located on the southern edge of Bellevue where the city abuts with the City of Redmond, home to Microsoft’s headquarters. The neighborhood borders Bellevue’s Crossroads neighborhood to the west. NE Bellevue is a single-family residential neighborhood characterized by significant tree coverage, multiple large parks, a loop and lollipop street plan, and busy arterial streets. Contained by congested arterials which constitute its boundary edges, the neighborhood’s extensive network of cul-de-sacs (loops and lollipops street design) discourages through-traffic of non-residents and produces a remote, isolated atmosphere for residents. These design features produce not only a sense of seclusion but also car-dependency of residents.

The neighborhood’s extensive network of cul-de-sacs discourages through-traffic of non-residents and produces a remote, isolated atmosphere for residents. These features also produce car-dependency.



*Design features that encourage walking and biking make neighborhoods safer for children to develop healthy habits.*  
CITY OF BELLEVUE

## WHAT IS WALKABILITY AND WHY IS IT BENEFICIAL?

Prior to the industrial era, all cities were designed and built around pedestrian uses. Before the advent of the automobile, people walked out of necessity to transport themselves to attend to their needs. “Walkability” as an urban design principle, emerged in the second half of the twentieth century, thanks largely to Jane Jacobs and her argument that the ideal neighborhood is designed to facilitate walking and other pedestrian uses. Gilderbloom, et al. (2015) define walkability as being “associated with suitability factors such as street width, the number of lanes, safe speeds, crossing improvements, the presence of trees, and other pedestrian level-of-service and suitability factors.” Reflecting the above content, it is clear that walkability, as a city planning concept, is derived from a combination of conditions that encourage walking in urban and suburban spaces, and therefore very applicable to NE Bellevue.

In the context of NE Bellevue, measures taken to improve walkability could simultaneously benefit public health, social capital, equity measures, and neighborhood cohesion. For instance, Richard Florida (2014) demonstrates that “medical research shows that walking can improve health outcomes in everything from heart disease and diabetes to improved mental and cognitive functions.” Research out of the University of New Hampshire indicates that in walkable neighborhoods, the occurrence of social interactions and forming of interpersonal connections increases, to improve the overall quality of life for residents (Rogers et.al 2011).

# THE CITY’S INTEREST IN WALKABILITY OF NORTHEAST BELLEVUE

The City of Bellevue’s interest in this project emerged out of its concern over the astonishingly low Walk Score NE Bellevue has received, earning just 32 out of 100 possible points. The Walk Score tool offers “a direct and replicable way of assessing geospatial, population and land use characteristics to benchmark walkability” (Gilderbloom et al. 2015). Considering this definition, NE Bellevue’s low score suggests that there may be myriad opportunities to improve design and infrastructure features of the neighborhood to make it safer and more comfortable for people walking and riding bikes. This inspired the City of Bellevue to include this project in its contract with LCY. To elaborate more on Walk Score, the tool looks at proximity to nearby amenities, specifically identifying amenities which fall within 0.25 miles of specific locations (e.g., a person’s home or workplace). Amenities no further than 0.25 miles away from a given location are deemed “walkable” and increase a location’s Walk Score (Walk Score Methodology 2018). This measure is largely irrelevant to the NE Bellevue setting, which is predominantly residential and much further than 0.25 miles from most non-residential amenities, generally leading to, if not requiring, car-dependency. Changing the Walk Score of NE Bellevue, by these standards, would require planning for and developing a host of new amenities, thus entailing huge infrastructure changes and financial investments. All of this would drastically alter the neighborhood’s character, too. Instead of focusing solely on Walk Score as a measurement for walkability, students involved in this project focused on improving walkability to already existing neighborhood amenities like parks, places of worship, and schools. Their investigation was informed by resident input, site visits, Gelh Analysis, and geospatial mapping.

Walkability is a concept generally promoted for dense urban settings, yet this project aims to apply the principles of walkability to a suburban context: Northeast Bellevue.

## ADDRESSING WALKABILITY IN SUBURBAN CONTEXTS

Walkability is a concept generally promoted for dense urban settings, yet this project aims to apply the principles of walkability to a suburban context: NE Bellevue. Examples of retrofitting suburban areas, originally designed to accommodate vehicular movement, to expand mobility options for suburban residents have been presented in several case studies: Mashpee Commons in Cape Cod, Massachusetts; Belmar in Lakewood, Colorado (near Denver), and Malta in upstate New York. In efforts to retrofit design and infrastructure to increase walkability of these suburban areas, each location faced a common challenge related to scale and context of suburban living. For instance, if too much mixed-use retail is added to increase the walkability of a suburban area, new businesses risk failing as a result of too few costumers and too limited buying power (Green 2014).



Northeast Bellevue is a quiet, secluded neighborhood. CITY OF BELLEVUE



# THE CITY’S REQUEST

The City of Bellevue asked students to create recommendations about where and what kind of improvements the City can make to increase the walkability and bikeability of NE Bellevue, a single-family residential zone with limited existing sidewalks. City officials also requested that this project take on the perspective and desires of residents of the NE Bellevue neighborhood. To accomplish these objectives within the framework of a ten-week quarter, students decided to divide the project into two parts:

- 1. A qualitative analysis of NE Bellevue
- 2. Direct and purposeful engagement with residents of the neighborhood

Walkability is often seen as an inherently urban concept. Thus, a main goal for this project has been to promote the benefits of walkability in a suburban context. In order to make recommendations for improvement that relate directly to NE Bellevue, students took it upon themselves to understand the neighborhood’s current conditions. Current neighborhood conditions primarily support walking as a means for recreation, not for transportation. To suggest an implementation strategy that will promote walkability and reflect the desires of residents, it has been important to student researchers to try to understand the values of current NE Bellevue residents. Understanding resident values makes it possible to integrate walkability design features with values and lifestyles of the people who live in this part of the city.

To suggest an implementation strategy that will promote walkability and reflect the desires of residents, it has been important to student researchers to try to understand the values of current NE Bellevue residents.



Example of a street with pedestrian and bicycle facilities: sidewalks, planting strips, and bike lanes. CITY OF BELLEVUE



# METHODS

Methods employed by student researchers have included resident engagement, observational analysis, and spatial analysis. Students applied this combination of methods in an effort to balance the goals of the City of Bellevue with the values of the people of Northeast Bellevue, all while responding to physical conditions of NE Bellevue.

## RESIDENT ENGAGEMENT

In order to learn more about the neighborhood and, more specifically, about residents' experience living in NE Bellevue, students organized a focus group meeting with a handful of NE Bellevue residents.

Student researchers worked with Nicholas Matz to set up a focus group session with several NE Bellevue residents at Bellevue City Hall. Students gained insights about priority concerns of residents. This guided students in their analysis of NE Bellevue and it allowed students to develop a better understanding of who lives in the neighborhood and how the recommendations of this report can be applied to current residents. Students used the SWOT (strengths, weaknesses, opportunities, threats) Analysis method to organize their impressions of the neighborhood's major challenges and opportunities. This served as a springboard for students to carry their work forward and form recommendations and implementation strategies that reflect the realities of the current neighborhood and the overarching goal to improve walkability measures.

## SITE VISITS

Students derived much of their preliminary analysis of NE Bellevue from direct field research in the form of site visits. This enabled them to “think like residents” and helped them to become more familiar with the neighborhood's design and composition.

## FAMILIARIZATION WITH THE NEIGHBORHOOD

It was important to understand the character of the neighborhood prior to forming an analysis for the site and making recommendations for the City to improve its walkability. Students made a point of walking through different parts of the neighborhood and through the parks of NE Bellevue to familiarize themselves with the area



*Sidewalks that end abruptly make traveling on foot unsafe for Northeast Bellevue residents. JONAS GEIER*



*Northeast Bellevue infrastructure that currently supports walkability. JONAS GEIER*



# GEHL ANALYSIS

During three site visits, students analyzed three parts of NE Bellevue using Gehl’s Twelve Urban Quality Criteria (Gehl Institute n.d.). These criteria allowed them to grade each area in terms of the level of protection, comfort, and enjoyment it offers residents. Each site received a score on a scale of 1 (low) to 3 (high) for each of the twelve criteria. This grading scale made it possible to quantify the neighborhood’s walkability. For example, lacking or only partially existing infrastructure such as in the photo below to the left lead to the site scoring lower. In contrast, existing infrastructure such as in the photo below to the right contributed to a sites higher score. Surveying began on October 5th and ended on October 26th. The areas surveyed are listed below:

- 1. The area surrounding Tam O’Shanter Park and Bennett Elementary School
- 2. The area surrounding the Tam O’Shanter Golf and Country Club
- 3. The area surrounding Ardmore Park

# FORMING SUGGESTIONS AND IMPLEMENTATION STRATEGIES

Students synthesized their findings to produce a set of recommendations and implementation strategies for the City of Bellevue to consider. The implementation strategies of this report stand as a set of guidelines for the City to apply to respond to its own goal to improve walkability of NE Bellevue. Students also generated GIS layers based on their findings which could be used for future analysis and planning.



ADA compliant ramps render sidewalks more accessible to people of different abilities. CITY OF BELLEVUE

# ASSESSING WALKABILITY

## BELLEVUE'S EXISTING PEDESTRIAN AND BICYCLE TRANSPORTATION PLAN

The Bellevue Pedestrian and Bicycle Transportation Plan (2009) has served as a guiding framework for us in our work. It has enabled us to bear in mind citywide goals while developing specific recommendations and implementation strategies to improve walkability and bikeability of NE Bellevue. By connecting with this Plan, we can ensure our recommendations adhere not just to the interests and desires expressed by the participants of our focus group but also to the City's goals.

Overall, the City of Bellevue is looking for ways to encourage residents to use different forms of transportation than driving alone. To do this, the City realizes it must provide infrastructure that supports pedestrians and cyclists. Throughout the Pedestrian and Bicycle Transportation Plan, the City emphasizes safety through its inclusion of "Vision Zero," an approach which aims to eliminate traffic-related deaths while expanding

mobility options. Currently a majority of Bellevue residents drives alone to transport themselves and may, therefore, be unaccustomed to sharing the road with pedestrians and bicyclists; this may be why the City stresses the importance of Vision Zero in its planning practice.

## FOCUS GROUP

This project focuses largely on engagement of residents as a method for effective, meaningful, community-driven planning. We worked with concerned residents of Northeast Bellevue and City Planner Nicholas Matz to set up a meeting at Bellevue City Hall. The meeting took place at City Hall on Friday October 26th at 11:30 am. The focus group session lasted one hour, and we had four residents of Northeast Bellevue join us. Our goals for the focus group were to understand who it is this report will serve and what their major concerns are regarding walkability. We wanted to learn about the specific changes residents would like to see.

To break the ice, we asked residents to reflect on living in their neighborhood and to describe any of its distinguishing features. We hoped to earn residents' trust by demonstrating our sincere interest in learning from them and hearing their perspectives. The level of comfort attained through this initial engagement helped open participants to our process and enabled our meeting to proceed in a more natural way, such that we did not have to rely solely on the questions we had formed to maintain the group's engagement. Our discussions revolved around resident views of living in their neighborhood, reasons they chose to live in NE Bellevue, and what makes them proud to reside where they do. We focused on these themes as they would allow us to glean a sense of NE Bellevue residents' values, mindsets, aspirations, and day-to-day habits.

Conversation soon shifted from residents' overall sense of living in NE Bellevue, to their views on mobility. Here, we began facilitating the conversation to a greater extent, motivated by our desire to collect specific information about how residents currently travel around their neighborhood, as well as what might encourage them to walk or bike more. We asked questions about which parts of their neighborhood, if any, residents currently feel dissatisfied with in terms of mobility. We also asked about their current use of infrastructures that support a range of transportation modes. The questions we framed in advance of the session prepared us to facilitate a rich and targeted discussion and to learn from multiple points of views related to the themes of mobility and walkability.

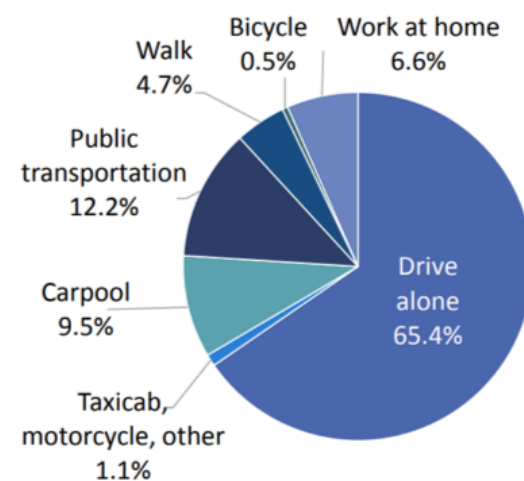
This project focuses on engagement of residents as a method for effective, meaningful, community-driven planning.

## HIGHLIGHTS FROM CITY OF BELLEVUE PEDESTRIAN AND BICYCLE TRANSPORTATION PLAN

Plan, design, build, and maintain an integrated, comprehensive network of pedestrian and bicycle facilities in collaboration with community stakeholders. In doing so, the City will advance the following objectives:

1. Transport by foot or bike between and within neighborhoods in Bellevue—focus on/prioritize connected networks
2. Health/fitness
3. Mobility for all ages/abilities (paired with education)
4. Increase public transit use
5. Reduce pollution of all types
6. Support economic growth
7. Improve Neighborhood Livability

**Figure TR-2. Mode Used by Bellevue Residents to Commute to Work (2009-2013)**



Source: American Community Survey - 2009-2013



## FOCUS GROUP SWOT ANALYSIS

Based on what we learned from the focus group, the most striking and obvious characteristics of NE Bellevue, including its loops and lollipops design, are considered to be its strengths by its residents. However, as discussed in the other sections of the SWOT analysis, many strengths come accompanied by limitations. Weaknesses identified by the participants of the focus group were mostly related to the accessibility and walkability of the neighborhood. Most of NE Bellevue’s opportunities relate to improving its infrastructure to support walking and biking. The neighborhood’s major threats relate to growth pressures and neighborhood change.

## GEHL ANALYSIS

The Gehl Analysis applies 12 urban quality criteria in a scoring system to quantify the walkability of an area. The method considers walkability from the point of view of pedestrians, and is thus resident-focused. The 12 criteria fall under three umbrella categories: protection, comfort, and enjoyment. While this method is most often used to assess walkability of urban areas, we consider our use of it to evaluate a suburban area unique and potentially compelling. It forced us to apply the 12 criteria in a different setting than they are usually applied. We have considered walkability in a space where people’s primary motivation to walk or bike is for recreation or exercise, not for transportation. While this is true, the City demonstrates a desire to motivate more people to consider walking and biking as viable modes of transportation in the future.

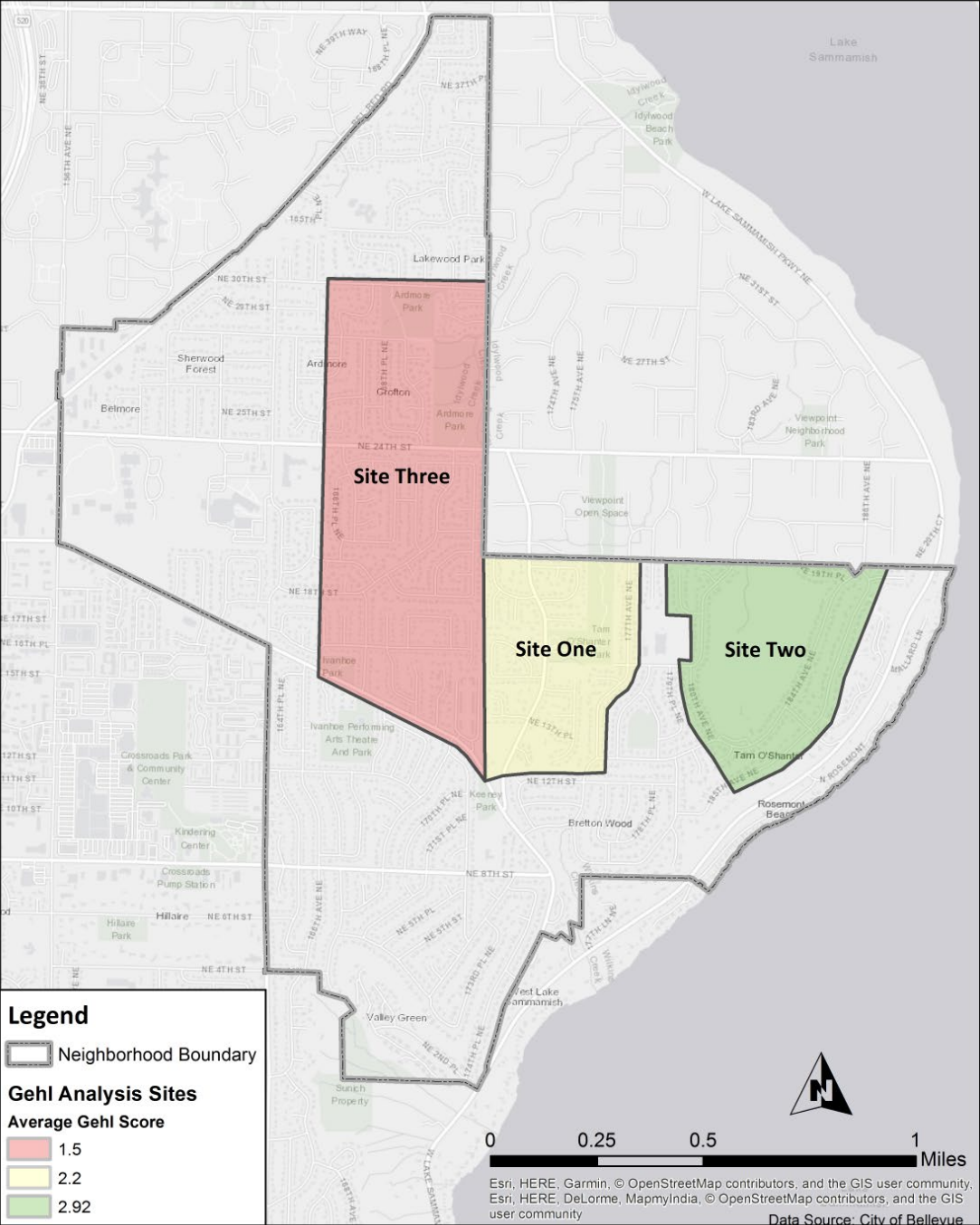
In our Gehl Analysis, we considered three sites, which we believe offer a representative sample of NE Bellevue. We visited the three sites on two separate occasions and analyzed the results from our visits according to the criteria. We conducted all of our site visits between the hours of 12 p.m. and 3 p.m.

For further breakdown of the Gehl Analysis, refer to Appendix I. To view aerial photos of each site and an in-depth Gehl Analysis for each site, refer to Appendix II.

## SWOT ANALYSIS

<p><b>Strengths</b></p> <p>The neighborhood’s sense of seclusion, created by its loops and lollipops design, produces a quiet and more intimate atmosphere for residents. Residents value this characteristic and state that it is why they chose to live in NE Bellevue in the first place.</p> <p>Recreational activities, including walking and biking, are accessible to residents of NE Bellevue. There are many parks in the area that residents are able to utilize for recreation, dog walking, and personal exercise. Some parks offer work out equipment too.</p> <p>Due to the seclusion and quietness of the neighborhood, residents are able to accompany their kids outside when they play on the streets.</p>	<p><b>Weaknesses</b></p> <p>During rush hours, the roads become very congested, making it difficult for residents to access other parts of the city, even areas that are relatively close, like Crossroads.</p> <p>A lack of infrastructure to support walking and biking is a weakness identified by residents of NE Bellevue. While it is possible to walk and bike within the neighborhood for recreational purposes, using these modes to get in and out of the neighborhood for transportation is extremely challenging.</p> <p>Topography is another feature of NE Bellevue that challenges mobility. Many streets in the neighborhood are very steep, making it physically challenging to walk or ride a bike.</p> <p>Lack of accessible paths and bike lanes and pedestrian lighting makes travel by foot or bike especially uncomfortable and unsafe in the dark.</p>
<p><b>Opportunities</b></p> <p>The members of the focus group mentioned that, considering the congested roads that surround the neighborhood, crossing these edges/boundaries of the neighborhood on foot or on a bike is unsafe and generally not encouraged. Supportive infrastructures could go a long way to promote behavioral and attitudinal shifts. Features such as pedestrian sky bridges over major arterials, pedestrian scale lighting, continuous sidewalks, and bike lanes can facilitate walking and biking as transportation modes.</p> <p>As NE Bellevue grows, the City has an opportunity to transform aspects of the neighborhood to make walking and biking more appealing. If these modes become viewed as viable alternatives to driving alone, it will mitigate some of the effects of increased population such as increased traffic and air and noise pollution.</p>	<p><b>Threats</b></p> <p>As NE Bellevue grows and becomes more densely developed, and with the new light rail station opening in the near future, the neighborhood is likely to experience increased traffic, regardless of the number of bike lanes and sidewalks the City constructs. This threatens to alter the neighborhood’s defining traits which motivated many of its residents to live there in the first place.</p>

GEHL ANALYSIS SITES IN NORTHEAST BELLEVUE



Applying Gehl's Twelve Urban Criteria, students attributed scores between 1 (low) and 3 (high) to each Northeast Bellevue site. SOPHIA NELSON

SCORING THE THREE SITES

The Gehl Analysis provided us with a wealth of information about NE Bellevue, especially how people interact within it. Site two scored the highest of the three, earning an almost perfect score of 2.92. Site three scored the lowest of all, averaging a score of 1.50. There are a variety of explanations for each site's score, and the following discussion justifies how we determined scores for each site. We also explain what the findings from the Gehl Analysis could mean for NE Bellevue as the City strives to improve its walkability.

**Site One: The Area Surrounding Tam O'Shanter Park and Bennett Elementary School**

**Overall Score: 2.20**

Site one received an overall score of 2.20. The site scored relatively low in the protection facet, due to its lack of sidewalks, street lamps, and due to the presence of fast, loud cars on barrier-free streets. There is, however, a sense of protection in the wooded parts of this area. Protected trails at the park, for example, feel secluded and safe, but they are generally cut off from the rest of the neighborhood. This area scored 2 in comfort, which reflects decent visibility and the presence of places to sit and stand in and around the park, as well as trails for recreational uses, exercise, and contact with nature. The area did not earn a high score in comfort, however, because of the presence of curved and rough roads, narrow shoulders, and frequent construction sites; and due to its lack of wheelchair accessibility. The area ranked highest in the enjoyment category due to the sense of place achieved through its design, landscaping, and access to trails

**Site Two: The Area Surrounding the Tam O'Shanter Golf and Country Club**

**Overall Score: 2.92**

Site two received a remarkably high score of 2.92. In the protection category, the area scored a perfect 3, due to its sheltered quality and quiet sense of place. The area has little traffic and large sidewalks which make room for people to move about in their neighborhood. In the comfort category, the area earned scores of two and three, attributed again to wide sidewalks and also to the presence of places to sit, talk, play, and relax. The area appeared to accommodate all ages, with play areas,



social gathering spaces, and access to nature and recreational outlets. In the enjoyment category, this area earned a score of 3, attributed to its human scale design which engenders sense of place and comfort. The open layout, presence of well-maintained lawns and ornamental plants, and view of happenings at the nearby school and country club create a warm and vibrant place for people be, reflect, and slow down.



*This is an example of infrastructure in Northeast Bellevue that supports the residents' mobility in the neighborhood.* JONAS GEIER

**Site Three: The Area Surrounding Ardmore Park**  
**Overall Score: 1.50**

Site three consistently scored the lowest of the three sites we visited, earning an overall score of 1.50. For protection, the site scored 1, due to the absence of crosswalks, sidewalks, and lighting, and due to the overall lack of protection from cars in the form of barriers or signs to make drivers more aware of pedestrians and cyclists. A steep slope contributes to visibility issues and cars speed in this area. In the comfort category, this area earned a score of about 1.5, due to its lack of accessibility (because of steep slopes, gravel paths, no sidewalks, and narrow shoulders) and due to the presence of loud construction activity and fast cars hugging tight curves. Its lack of places to sit or stand comfortably leave it devoid of room for lingering, talking, or playing. The portion of this site closest to Ardmore Park provides the most comfort, offering space for play and relaxation. For enjoyment, this area scored 1.5. The pace and frequency of cars moving through the area, along with the presence of massive construction equipment, make it feel stressful and chaotic, like a place people would hurry to pass through rather than slow down to experience.



*Areas that lack sidewalks and bike lanes discourage more people from walking and biking in Northeast Bellevue.* JONAS GEIER

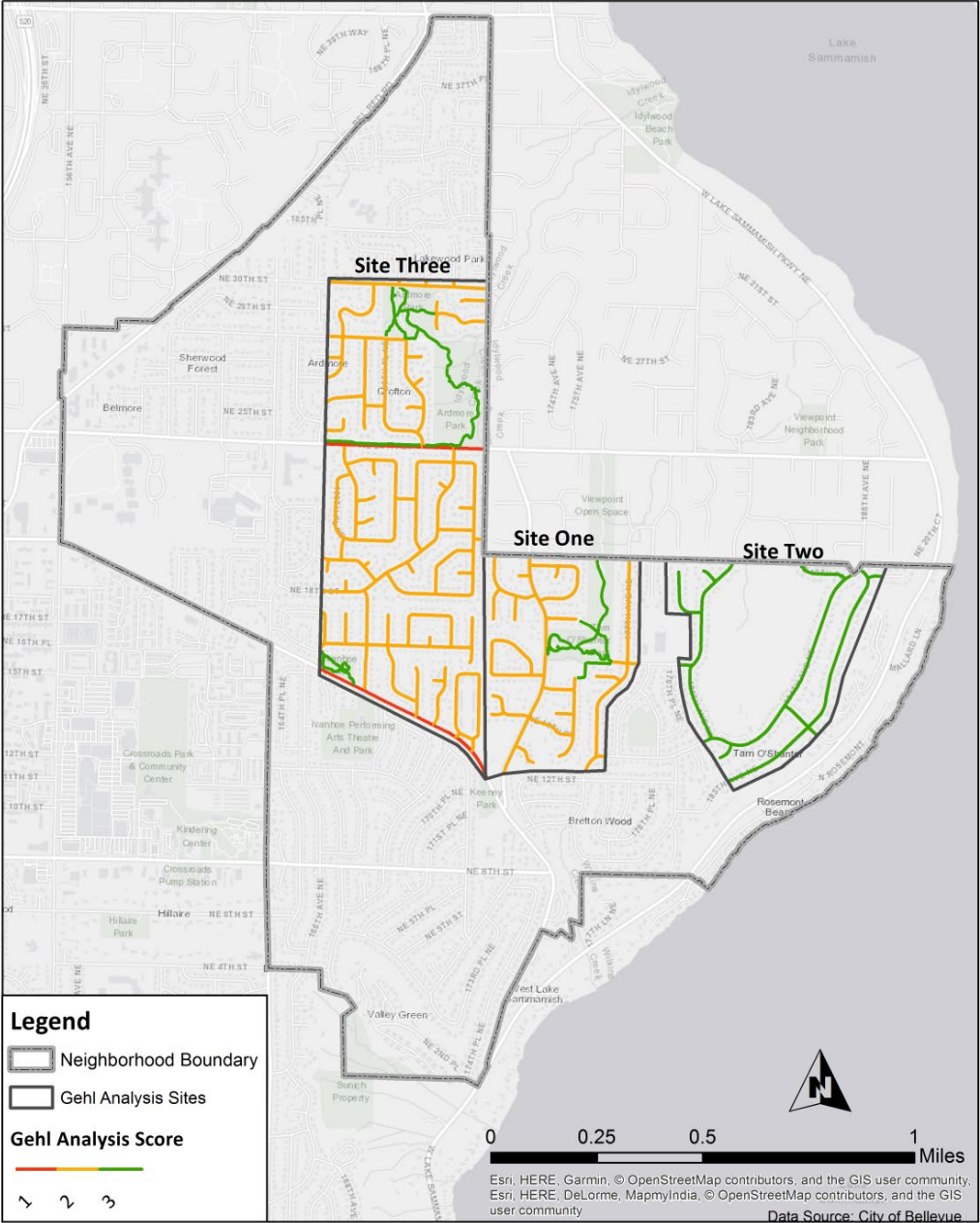


### GEHL ANALYSIS REFLECTION

The ratings listed above reflect varying degrees of walkability in addition to the overall quality of suburban characteristic of NE Bellevue. It is important to consider how resident perceptions of space directly relate to their usage of space. If spaces can be designed in a way that promotes a changed perception of a site presently considered unsafe for or unwelcoming to pedestrians and cyclists, then more people are likely to use the site as pedestrians and cyclists in the future. By addressing design features of NE Bellevue, the City can take action to fulfill many of the goals presented in the Bellevue Pedestrian and Bicycle Transportation Plan to advance transportation by bike and foot within and among Bellevue neighborhoods, improving mobility while also reducing pollution, promoting public health, and benefiting livability for all residents. By accounting for positive features already present in some parts of NE Bellevue and applying those aspects more consistently throughout the neighborhood, access and connectivity of infrastructure that supports pedestrians and cyclists can be improved, making both more viable alternatives to driving alone.

By accounting for positive features already present in some parts of NE Bellevue and applying those aspects more consistently throughout the neighborhood, access and connectivity of infrastructure that supports pedestrians and cyclists can be improved, making both more viable alternatives to driving alone.

### GEHL ANALYSIS SCORES IN NORTHEAST BELLEVUE



SOPHIA NELSON

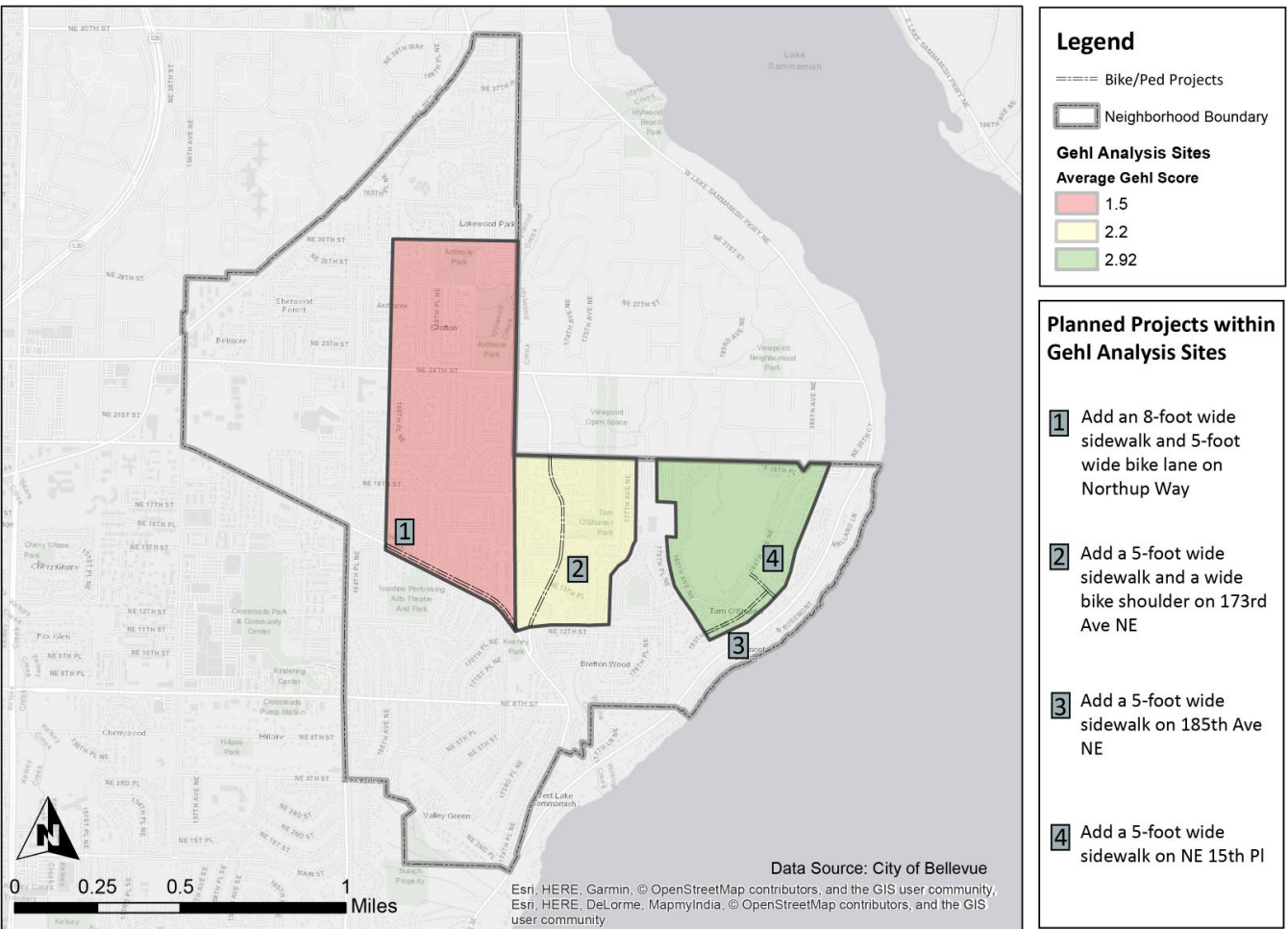
# COMPARISON OF GEHL ANALYSIS AND EXISTING PEDESTRIAN AND BICYCLE TRANSPORTATION PLAN

In order to apply the results of our Gehl Analysis to the City of Bellevue’s existing Pedestrian and Bicycle Transportation Plan, we compared the location of the City’s proposed bike and pedestrian improvement projects to the Gehl Analysis scores for the three sites we evaluated to see if we could detect gaps. We used the City of Bellevue’s GIS data for planned projects to perform this exercise. The City’s GIS tool includes attribute information for planned projects, which helps one to visualize the City’s plans. This tool enabled us to pinpoint projects planned within each site. Additionally, this tool allowed us to see whether the City has overlooked any areas we determined to be of priority concern. As shown in the map below, the City has proposed projects for four roads that run through the three sites we analyzed.

## DISCUSSION

By overlaying the GIS layers for projects proposed by the City and the Gehl Analysis scores, we can observe how different parts of NE Bellevue are being addressed by the Bellevue Bike and Pedestrian Plan. As shown in the map above, there are four roads that the City addresses in its plan: Northup Way, 173rd Avenue NE, 185th Avenue NE, and NE 15th Place. The distribution of these projects reveals an attempt to implement improvement projects throughout NE Bellevue. There is at least one project proposed in each of the sites we analyzed.

# PEDESTRIAN AND BICYCLE TRANSPORTATION PLAN PROJECTS IN NE BELLEVUE



Gehl Analysis scores for the street and trail networks within the three study sites in Northeast Bellevue. SOPHIA NELSON



It is interesting to note that the site that scored the highest is also the area with the most projects proposed to improve pedestrian infrastructure.

**Site One:** One road is addressed by the Pedestrian and Bicycle Transportation Plan in this part of NE Bellevue: 173rd Ave NE. In order to improve this particular site's Gehl score, of 2.2, the major roads of the area should be prioritized for bike and pedestrian projects. The project proposed for 173rd Ave NE is to add a wide bike shoulder. Although a dedicated bike lane would be preferable, a wider shoulder will be a substantial improvement for this area which needs infrastructure to accommodate cyclists.

**Site Two:** The City proposes projects for two streets in site two, one for 185th Ave NE and one for NE 15th Place. Both projects entail adding sidewalks along streets that currently lack them. Comparing the City's plans to the scores we calculated, it is interesting to note that the site that scored the highest is also the area with the most projects proposed to improve pedestrian infrastructure in the future. There are no plans to improve biking infrastructure in this area, which may be a result of existing bike infrastructure already within the site.

**Site Three:** The City proposes two improvements for one road in site three, which received the lowest score in our Gehl Analysis. The two improvements for Northup Way are to add an eight-foot wide sidewalk and a five-foot wide bike lane. Northup Way is characterized as an unsafe and unpleasant arterial for pedestrians. This was confirmed by the results of our Gehl Analysis and stated by residents during the focus group session we facilitated. Therefore, it makes sense for the City to plan a project to improve this street for pedestrians and cyclists. Additionally, it makes sense for this street to receive the most significant project proposal, out of all planned for NE Bellevue, since it currently stands out as less safe and less comfortable than many other streets in the neighborhood. However, there is another major road in this part of NE Bellevue, NE 24th Street, which is similarly unsafe for pedestrians and cyclists. In both the Gehl Analysis as well as the focus group, this street stood out as one in need of major infrastructural improvements to expand mobility options for pedestrians and cyclists. While the City does propose projects for other sections of NE 24th Street, heading west from the neighborhood, we assess that the City has overlooked this part of the street and should extend its plans to include it.

We assess that the City has overlooked a portion of NE 24th Street in its proposed pedestrian and bike improvement projects.

EAST LINK LIGHT RAIL STATION



A look at the “traveler” on top of a guideway column where a new light rail bridge is being built over I-90.  
SOUND TRANSIT

Although it is not included in the Bellevue Bike and Pedestrian Plan, the new light rail station opening near the northern end of NE Bellevue will impact NE Bellevue mobility. The light rail station could impact the neighborhood's walkability in both positive and negative ways. For example, it is likely to produce many positive benefits since it will provide a new place for residents to walk to, one that will enable them to access opportunities outside of their immediate surroundings without driving. The mere presence of the light rail station is likely to reduce car dependency for residents of NE Bellevue. However, the station may draw increased traffic from outside NE Bellevue, as residents from other parts of the city are likely to drive to access it. Any increased traffic into the neighborhood can be mitigated by making sure there are sufficient pedestrian paths and bike lanes leading to and from the station. In any evaluation of plans to add and improve pedestrian and cyclist infrastructure, it is important to pay attention to plans for new transit infrastructure and how these plans may support or hinder efforts to improve the pedestrian/cyclist experience. To the extent possible, aspects of transit plans that may detract from the pedestrian experience should be mitigated.



# RESIDENT ENGAGEMENT

Given our aim as researchers to be able to “think like residents,” we thought it useful to immerse ourselves in the neighborhood and interact with as many residents as possible. We did so on three occasions: October 5th, October 19th, and October 26th. Our visits spanned much of NE Bellevue and each lasted about two hours. Through this exercise, we hoped to gain more understanding of the needs, priorities, and values of residents. Over the course of our visits, we observed very little non-motorized movement of people. This was true of people using roadways and sidewalks throughout NE Bellevue. Each person we encountered walking or biking was doing so for recreational purposes, not for transportation.

**October 5th** Our goals for our first visit were to become familiar with the layout of the neighborhood and to visit some of its major sites: schools, churches, and parks. As we explored these locations, we made note of common characteristics that make streets less safe and comfortable for people to walk or bike:

- Streets without shoulders and sidewalks
- Loops and lollipops design which reduces sightlines

During this first visit, we interacted with one resident who was sitting on the sidewalk outside of Tam O'Shanter Park. He drew a mental map of the area for us and spoke at length about how he enjoys the greenery of NE Bellevue. He described walking and biking purely for recreational purposes. He mentioned that he works at Microsoft and chooses to drive 10-15 minutes rather than bike due to the large hill on NE 24th St.

**October 19th** On our second site visit, we had high hopes of interacting with more residents due to an unseasonably warm day. However, we succeeded in speaking only with two older women, a pair of friends out walking their dogs. These residents had more of an environmental focus when we asked them about walking in their neighborhood. One of the women stated that she would appreciate improved sidewalks. Her companion countered her point, saying she does not want curbs and gutters, and would prefer bio-swales to mitigate surface water runoff. The two agreed that they would like to the City address litter by placing more trash cans along major arterials.

**October 26th** Our third and final site visit reinforced what we had learned during our first two: there simply are not many people out walking and biking in NE Bellevue. We were largely unsuccessful in our final attempt to engage with residents. We were able to chase down one

older gentleman, out for a jog, and while cordial, he refused to slow his pace during our chat. Fortunately, his sentiments were concise. He stated that the road network functions well for his exercise purposes and that he is against adding any new sidewalks. He deems them unnecessary. It was after this particular exchange that it occurred to us that during our site visits, we were only reaching residents who already feel comfortable walking or biking in their neighborhood. Their feedback is more likely to shine positively on the neighborhood's current design and to reflect the status quo.

We found this direct engagement useful as it helped us to identify individuals who already walk and bike in Northeast Bellevue. We gathered from our limited number of interactions general consensus that walking and biking serve recreational and exercise purposes, and not transportation. We appreciated hearing directly from residents about their views of their neighborhood's walkability. Despite the Gehl Analysis scores, some of the residents of NE Bellevue view their neighborhood as perfectly walkable, as far as their needs are concerned. Lastly, many of our encounters with residents during site visits echoed the perspectives and values expressed by residents during the focus group session we facilitated at City Hall. A major takeaway from our experiences interacting with residents of NE Bellevue is that if the City wishes to improve walkability measures and motivate more people to walk and bike for transportation, it will have to attend not only to inadequate infrastructure, but also to perceptions that walking and biking are leisure activities, and not transportation means.

It occurred to us during our last site visit that we were only reaching residents who already feel comfortable walking or biking in their neighborhood and their feedback is more likely to reflect the status quo.

Over the course of our visits, we observed very little non-motorized use of roadways and sidewalks throughout NE Bellevue.

# NETWORK ANALYSIS

To supplement our qualitative methodologies, focused on human experiences and perceptions, we conducted a network analysis of Northeast Bellevue. This way we could analyze its walkability from a more quantitative and objective perspective. In our analysis, we considered access to parks, churches/places of worship, and schools, since NE Bellevue residents express that these are the places they most frequently walk to from their homes. It is important to analyze walkability not just in terms of proximity from a given point of origin to a given destination, but also in terms of existing features of the built environment and road networks which support pedestrian uses, the latter of which offers insights into the level of safety and comfort pedestrians and cyclists feel while walking or biking. Such considerations are especially important in lower density, suburban neighborhoods, like NE Bellevue, where long, winding streets and cul-de-sacs make walking less direct and more complicated.

## APPROACH

Many aspects of our approach reflect lessons learned from residents during the focus group session we facilitated as well as observations we made during site visits to NE Bellevue. Using geographic information systems (GIS) software and geospatial data provided by the City of Bellevue, we analyzed the neighborhood's service areas (parks, places of worship, and schools) along a street network. We input layers of data to reflect neighborhood boundaries, schools, parks, street networks, and trails. Because the inputs for a network analysis must be point facilities, we created a point layer of the vertices for the park polygon layer. This means that we defined "walkability to a park" as the ability to walk to access any corner of a park, rather than to the center of a park or to park entrances. Because we decided to look at walkability to places of worship, we created a layer using data drawn from Google Maps. Though most places of worship are not located within the precise boundaries of NE Bellevue, many are close enough to fall within walking distance of residences.

It is important to note that our analysis corresponds to NE Bellevue's street network, and not its network of sidewalks. We made this determination because hardly any part of the neighborhood would be considered "walkable" if pedestrians were constrained to walking only on sidewalks (which do not exist throughout portions of NE Bellevue).

Additionally, many residents display a willingness to walk on shoulders, perhaps because they are accustomed to the lack of continuous sidewalks throughout their neighborhood. Because residents express that they like to walk through the parks of their neighborhood, especially along trails, we added a trail assets layer to our analysis. Once we had compiled a network dataset, we used it to create walkable buffers for each destination type at two distance intervals: one quarter- and one half-mile lengths. We considered these distances because residents who attended the focus group meeting stated they are willing to walk distances of these lengths.

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Our analysis corresponds to NE Bellevue's street network and not its sidewalks because so much of the neighborhood lacks sidewalks.

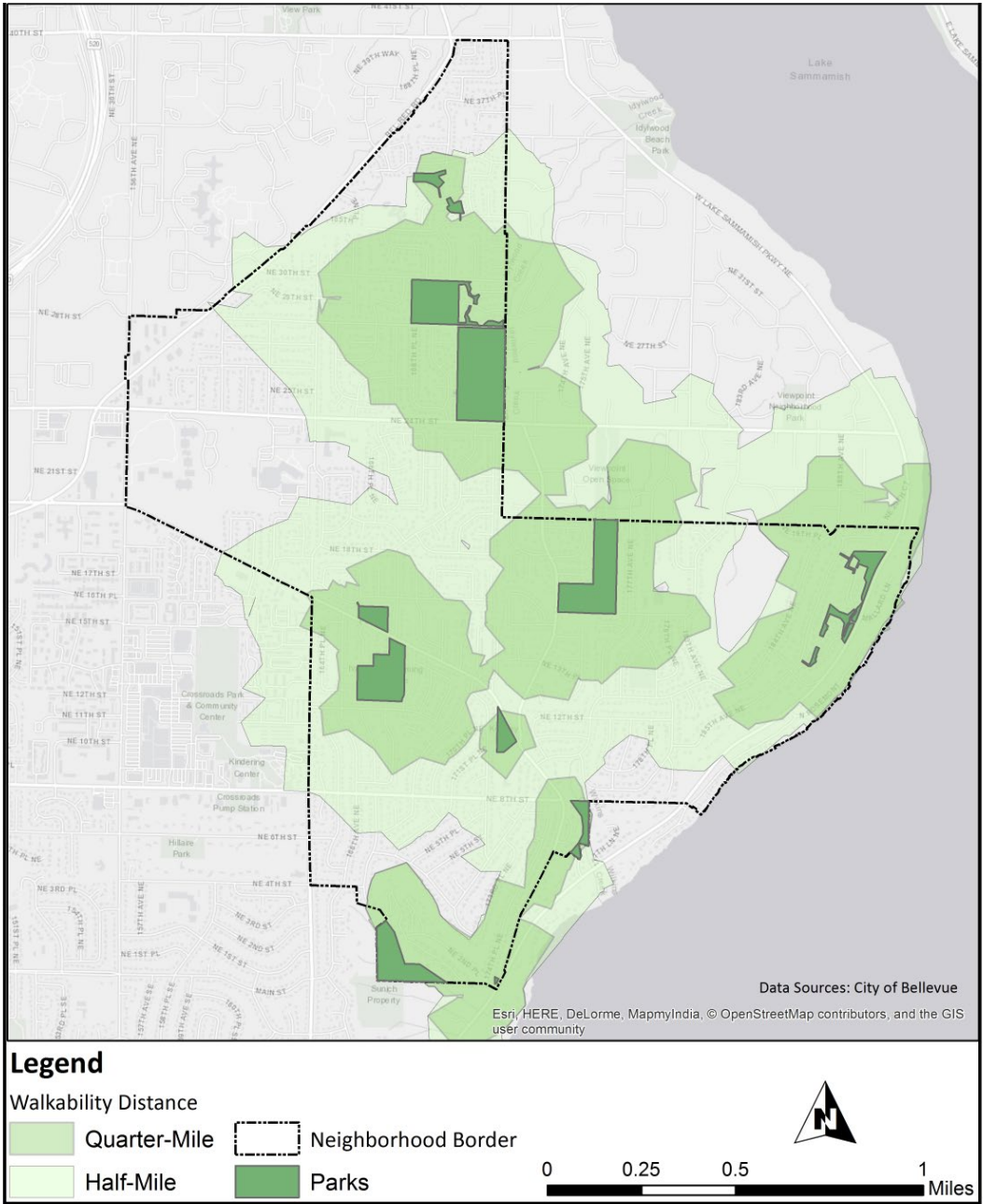
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## DISCUSSION OF NETWORK ANALYSIS

The network analysis offers a more objective and visual representation of walkability in NE Bellevue. However, it does not account for features of the environment, infrastructure, or sidewalk connectivity. Rather, it paints a simplified picture of sites that can be accessed by walking a short distance along street and trail networks.



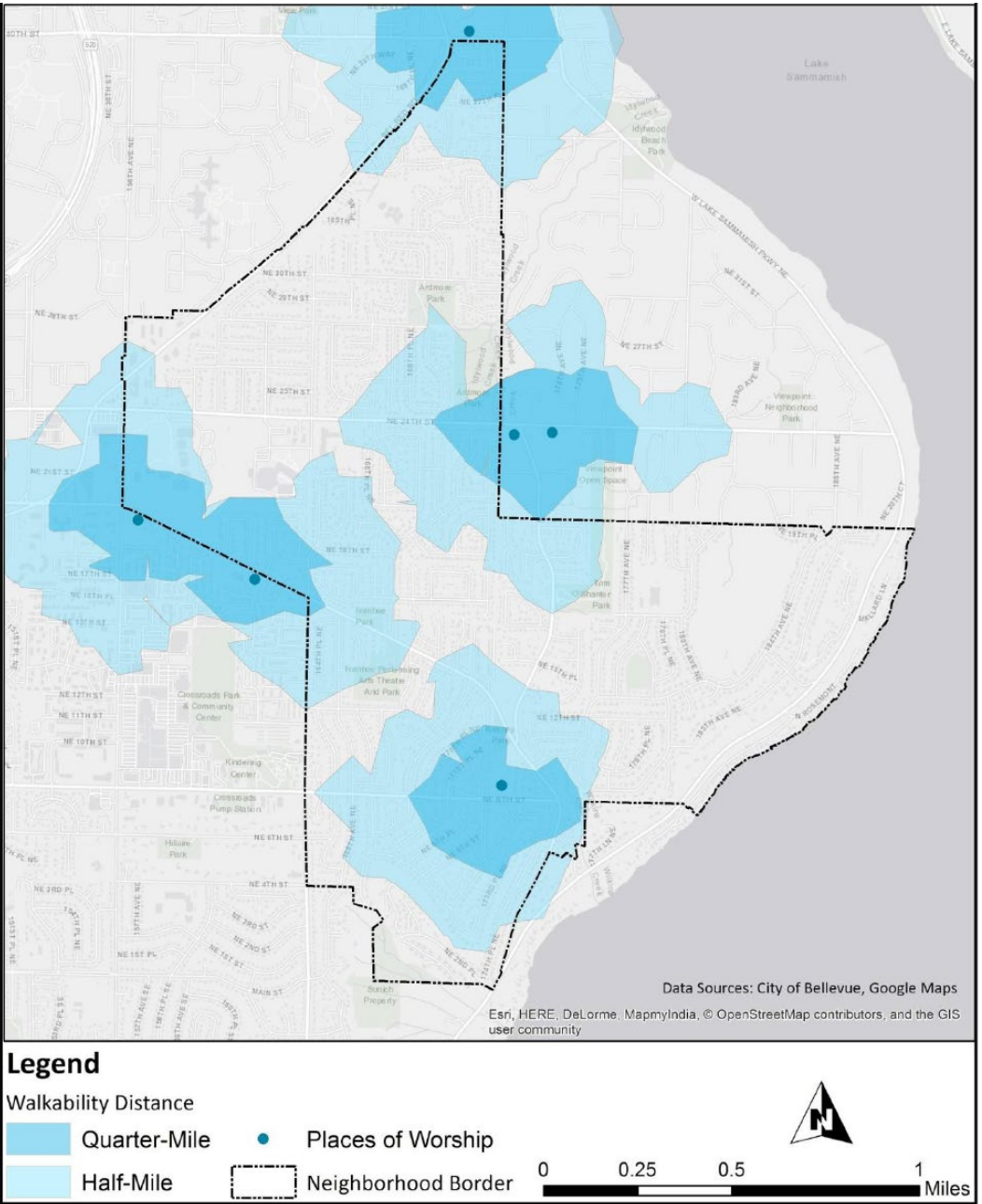
WALKABILITY TO PARKS IN NE BELLEVUE



SOPHIA NELSON

It is evident from viewing this map of parks that most of NE Bellevue is walkable to parks. Most parks are about 10 acres in size and well dispersed, which makes them more accessible to different parts of NE Bellevue. The central areas of the neighborhood, especially near the Bellevue-Redmond boundary, and areas such as Crofton, Ardmore, and Tam O'Shanter, are shown as more walkable to parks than other areas. Homes in the westernmost reaches of the neighborhood are considerably farther from parks.

WALKABILITY TO PLACES OF WORSHIP IN NE BELLEVUE

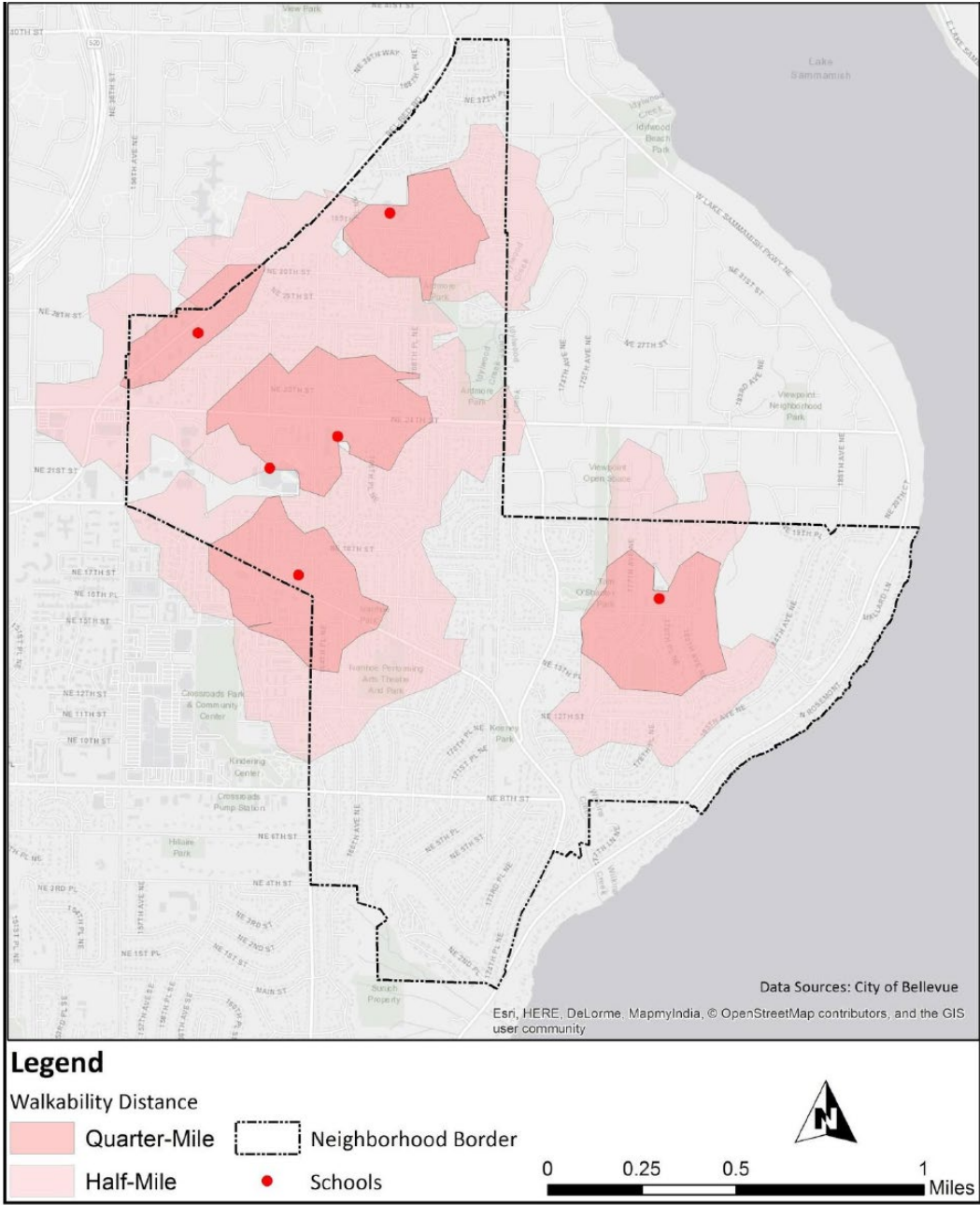


SOPHIA NELSON

This map, showing places of worship, demonstrates that most of NE Bellevue is not walkable to places of worship. This is especially true for the eastern boundary, near Tam O'Shanter Park, and for the neighborhood's northern reaches, like Sherwood Forest. However, some areas are nearer to places of worship, especially along Northup Way.



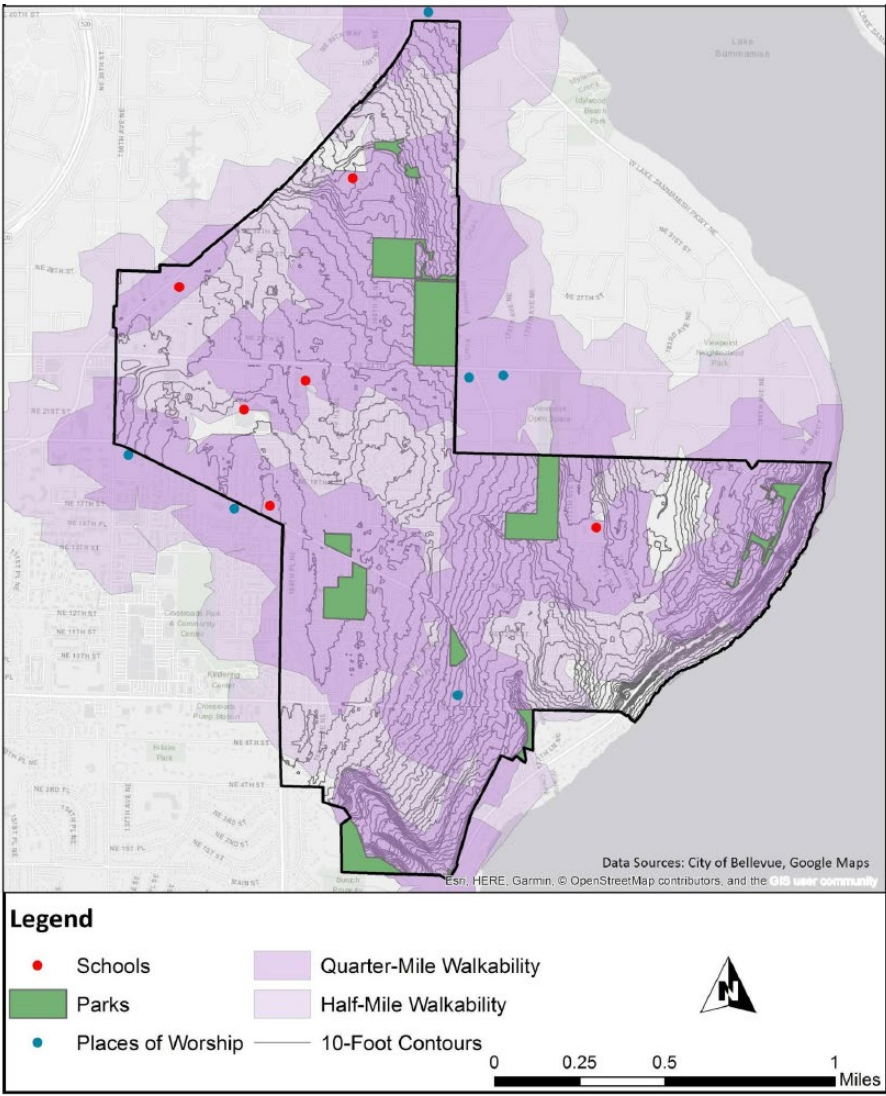
WALKABILITY TO SCHOOLS IN NE BELLEVUE



SOPHIA NELSON

This map of schools is especially crucial because it concerns children and youth and their ability to walk to access their schools safely. The northern portions of NE Bellevue are more walkable, particularly the area near Lakewood Park. However, the southern reaches of the neighborhood are much less walkable to schools. This is due in part to the lack of schools in this part of NE Bellevue, which means children and youth who live here must walk farther to access schools or arrive through alternate transportation means.

WALKABILITY TO SCHOOLS, PARKS, AND PLACES OF WORSHIP IN NE BELLEVUE



SOPHIA NELSON

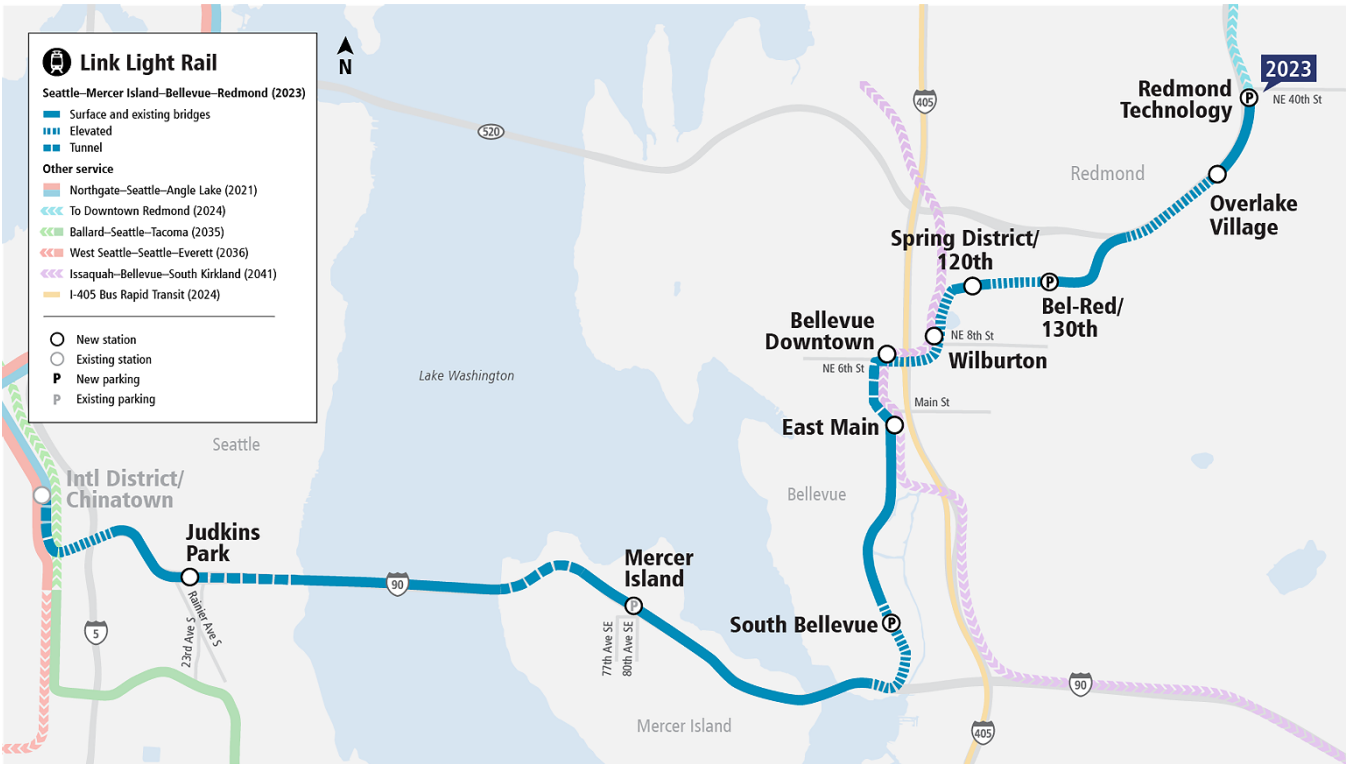
This last map combines walkability to parks, places of worship, and schools. It helps one to visualize which parts of NE Bellevue are walkable to all three amenity types. The map shows that nearly every place in the neighborhood, with the exception of Tam O' Shanter Golf Course, is walkable to at least one of these location types. However, this map also includes 10-foot contour lines to illustrate which areas feature steep slopes that may reduce walkability, since people are generally less likely to walk in hilly areas. As shown in the map, some areas appear walkable based on distances alone, but may in fact not be walkable as a result of topography. This is especially apparent in the southern and eastern parts of the neighborhood, where it would be necessary to walk up a steep hill in order to walk to another part of NE Bellevue.



# LIMITATIONS

While it would be interesting to analyze the walkability to additional amenities like grocery stores, retail shops, libraries, and other sites, we chose not to because these sorts of facilities are primarily located outside of NE Bellevue’s boundaries.

Because our analysis does not take into consideration the actual pedestrian experience, there are limits to what we can conclude from the maps presented in this section. For example, the maps show high walkability nearby Northrup Way, NE 24th Street, and Bel-Red Road. However, these streets are found to be unsafe for pedestrians, especially during rush hours. In reality, these and other areas deemed “walkable” by the geospatial analysis are not, as a result of infrastructure that is incompatible with pedestrian uses. Additionally, this analysis does not show the location of the future light rail station. Residents have expressed that they may or may not walk to the new light rail station, depending on how close they live to the station. However, the presence of the station will still impact walkability of the neighborhood, especially in the northern end of the neighborhood. People may be willing to walk farther to get to the light rail than they would be to get to a bus stop. The station may also impact street safety and traffic influx, as people from around the area are likely drive into the area and park near the future station. While these maps can aid in assessing the relative walkability of NE Bellevue to certain types of amenities, neighborhood and transportation infrastructure and the pedestrian experience must be considered as well, especially as the neighborhood continues to change.



Project map of the East Link Light Rail. SOUNDTRANSIT

# RECOMMENDATIONS

## RATIONALE

The following strategies and suggestions are guided by our background research as well as our study of the site. The existing City of Bellevue Pedestrian and Bicycle Transportation Plan provides additional context for our strategies and suggestions. We view our work as resident-aware and supplementary to the City's plan.

The City of Bellevue's Pedestrian and Bicycle Transportation Plan outlines the following key priorities which foreground our recommendations.

### Priorities of the Pedestrian and Bicycle Transportation Plan

Increase walking, biking, and public transit

- Improve facilities that support these actions
- Increase public health
- Reduce pollution

### City of Bellevue's goals related to increasing understanding of resident priorities

- Work to specifically engage residents with the concept of walkability in their neighborhood
- Ensure that people feel safe in their neighborhood and satisfied with mobility options

We move from city-wide planning goals to resident-specific goals, derived from our research.

### Observations from focus group session and other resident engagement reveal the following priorities

- Walking and biking within the neighborhood is possible and done primarily for recreational purposes.
- Parks within the neighborhood are accessible by walking.
- Main arterials (often congested) that surround the neighborhood make entering and exiting NE Bellevue as a pedestrian or cyclist challenging, uncomfortable, and unsafe.
- Scarce sidewalks as well as lack of lighting make walking and bicycling uncomfortable and unsafe.

- Infrastructure improvements, such as sky bridges over the main arterials and dedicated bike lanes, can facilitate walking and biking as modes of transportation in and out of NE Bellevue.
- Common perceptions related to walking and biking must be addressed in order to motivate more residents to view these modes as viable transportation options.

We move from resident-specific goals to analysis-based goals that assess protection, comfort, and enjoyment of the site.



People making good use of a bike lane in Bellevue. CITY OF BELLEVUE



# SUGGESTIONS

Our Gelh Analysis informs the following suggestions related to infrastructure improvements for NE Bellevue..

- Increase presence of sidewalks, crosswalks, bike lanes, planting strips, and other buffers in an effort to accommodate walking and bicycling and create a sense of protection from automobiles.
- Prioritize connectivity among mobility infrastructures, such as sidewalks and bike lanes.
- Make NE Bellevue more accessible and more comfortable for those who are not able-bodied by addressing current conditions: narrow shoulders, poorly maintained and non-ADA compliant sidewalks.
- Create spaces for talking, playing, sitting, and appreciating surroundings: benches, picnic tables, pocket parks.
- Provide street/sidewalk lighting to make walking and biking at night safer and more comfortable.
- Emphasize speed limits through better signage, flashing signals, and bright colors.

## IMPLEMENTATION

We can combine and reconcile these priorities and improvements in a variety of ways and achieve multiple benefits. Carefully orchestrated planning strategies can achieve the goals laid out by the City of Bellevue and simultaneously satisfy the desires of residents. By implementing the suggestions of this section, NE Bellevue can become more accessible and better connected, in such a way that encourages more people to walk and bike not only for recreational purposes but for transportation. Positive outcomes will include improved health, increased social capital, and reduced pollution.

Our final suggestions and implementation strategies follow.

### PROVIDE A NETWORK OF CONNECTED WALKING AND BIKING PATHS

- Include flashing crosswalks to facilitate safe pedestrian crossings at main arterials, especially on streets such as Northup Way and NE 24th Street. Crosswalks can also increase visibility and make walking for transportation a more viable option.

- Widen sidewalks and bike lanes on main arterials and side streets. Widening these features can improve walkability for less able-bodied people and ensure that people are not forced to walk close to high-speed traffic.
- Paint dedicated bike lanes. Paint can increase visibility and it is a low-cost infrastructure improvement. Bike lanes would go a long way to foster Bellevue's goal to facilitate biking as a transportation mode.
- Make sure sidewalks are continuous throughout NE Bellevue. This will encourage more people to walk from their homes to other locations in their neighborhood. Currently, many sidewalks end abruptly, which forces people to walk in the streets.

### IMPLEMENT NEW FEATURES TO IMPROVE PEDESTRIAN SAFETY IN NE BELLEVUE

- Medians, such as paved islands with planters and street trees, and small roundabouts along side streets, could provide buffers between pedestrians and vehicles and force drivers to slow down.
- Pedestrian-scale lighting along sidewalks and paths can increase pedestrian safety without encouraging people in cars to speed and without altering the neighborhood's quiet character.
- Flashing speed limit signs on arterials can remind drivers of the speed limit and make them more aware of pedestrians.

### NORMALIZE WALKING AND BIKING AS VIABLE METHODS OF TRANSPORTATION BY PROVIDING SUPPORTIVE INFRASTRUCTURE

- Create walking paths from homes to parks, churches, and schools. A network of continuous pedestrian paths could bridge the gap between the physical proximity to locations of interest and the actual walkability of much of NE Bellevue. As more people walk in the neighborhood, this can increase the social normalcy of walking, causing more people to engage in the activity over time.
- Introduce a “walking school bus.” This is one way to demonstrate that walking is a viable option for transportation that can also reduce traffic associated with getting children to school. A “walking school bus” also provides a powerful example of the social and health benefits of walking as a form of transportation and encourages people to develop walking habits from a young age.





*Well-marked pedestrian crosswalks and narrow travel lanes signal to people driving to slow down and look out for people walking. CITY OF BELLEVUE*

## ENSURE THAT SUBURBAN LIFESTYLES CAN COEXIST WITH MOBILITY MEASURES

Provide connectivity from residential areas to commercial areas and businesses that the residents of the neighborhood utilize. This can bolster the local economy, a goal that is outlined in the existing Bike and Pedestrian Plan, while also promoting walkability.

- Create incentives for walking or biking to work and school. This is one way to encourage increased use of non-motorized transportation modes.
- Provide opportunities for conversation through community events, and help residents understand how infrastructure that supports multi-modal transportation can benefit them. These meetings can also serve the City, providing opportunities for the City to develop greater understanding of where additional infrastructure improvements can be made to increase mobility of NE Bellevue.



# CONCLUSION

In the initial steps of this project, we worked to familiarize ourselves with NE Bellevue and with City of Bellevue's Pedestrian and Bicycle Transportation Plan. This helped us begin to view aspects of the neighborhood which support walkability and others which hinder it. This portion of our work also informed our understandings of the City's current goals to expand mobility options for Bellevue more generally. Once familiar, we determined research strategies to help us assess the walkability of NE Bellevue: a focus group, a Gehl Analysis, and a GIS spatial analysis. After executing these methods, we conclude that there is extensive room to improve mobility of NE Bellevue. Some of the potential improvements include adding and widening sidewalks and bike lanes and installing pedestrian-scale lighting and traffic calming devices throughout the neighborhood.

While residents enjoy the peaceful seclusion of their suburban neighborhood, some express dissatisfaction toward the lack of infrastructure to support walking and biking. Walking for personal recreation is possible, but walking and biking for transportation — running errands, travelling to and from work or to another part of the city — is far less practicable. Why? Because walking and biking routes are frequently discontinuous, indirect, uncomfortable, and/or unsafe. These characteristics are the result of a lack of infrastructure to support walking and biking, coupled with heavy congestion along the main arterials of NE Bellevue. Biking in heavy traffic is dangerous due to the lack of bike lanes, shoulders/medians, and crossing opportunities. Similarly, it is difficult to walk in and out of NE Bellevue since there are so few pedestrian-designated crosswalks.

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We learned during the focus group session that the residents of NE Bellevue envision a future in which cars are not the main mode of transportation.

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Looking ahead, there are a multitude of infrastructure improvements that can improve walkability of NE Bellevue and begin to shift status quo notions that to move around where we live, we must rely on cars. Residents of NE Bellevue can become inspired to adopt pedestrian and/or cyclist habits. Painting bike lanes, installing crosswalks and street lamps, and reinforcing speed limits are among the possible changes that would support mobility options for the residents of NE Bellevue, and make the neighborhood safer for pedestrians and cyclists of all ages and abilities. We learned during the focus group session that the residents of NE Bellevue envision a future in which cars are not the main mode of transportation. They dream of a place where walking and biking are not only encouraged, but practicable by way of complementary neighborhood design and infrastructure features. Based on our research and findings, implementation of the strategies and suggestions provided in this document would aid the City of Bellevue in achieving this vision.



*Student researchers on a site visit. LCY STUDENT TEAM*

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# APPENDICES

## APPENDIX I GEHL CRITERIA CHART

### TWELVE URBAN QUALITY CRITERIA

LOCATION:

3 = YES  
2 = IN BETWEEN  
1 = NO

Protection	<p>Protection against traffic and accidents.</p> <p>Do groups across age and ability experience traffic safety in the public space? Can one safely bike and walk without fear of being hit by a driver?</p>	<p>Protection against harm by others.</p> <p>Is the public space perceived to be safe both day and night? Are there people and activities at all hours of the day because the area has, for example, both residents and offices? Does the lighting provide safety at night as well as a good atmosphere?</p>	<p>Protection against unpleasant sensory experience.</p> <p>Are there noises, dust, smells, or other pollution? Does the public space function well when it's windy? Is there shelter from strong sun, rain, or minor flooding?</p>
Comfort	<p>Options for mobility.</p> <p>Is this space accessible? Are there physical elements that might limit or enhance personal mobility in the forms of walking, using of a wheelchair, or pushing a stroller? Is it evident how to move through the space without having to take an illogical detour?</p>	<p>Options to stand and linger.</p> <p>Does the place have features you can stay and lean on, like a façade that invites one to spend time next to it, a bus stop, a bench, a tree, or a small ledge or niche?</p>	<p>Options for sitting.</p> <p>Are there good primary seating options such as benches or chairs? Or is there only secondary seating such as a stair, seat wall, or the edge of a fountain? Are there adequate non-commercial seating options so that sitting does not require spending money?</p>
	<p>Options for seeing.</p> <p>Are seating options placed so there are interesting things to look at?</p>	<p>Options for talking and listening/hearing.</p> <p>Is it possible to have a conversation here? Is it evident that you have the option to sit together and have a conversation?</p>	<p>Options for play, exercise, and activities.</p> <p>Are there options to be active at multiple times of the day and year?</p>
Enjoyment	<p>Scale.</p> <p>Is the public space and the building that surrounds it at a human scale? If people are at the edges of the space, can we still relate to them as people or are they lost in their surroundings?</p>	<p>Opportunities to enjoy the positive aspects of climate.</p> <p>Are local climatic aspects such as wind and sun taken into account? Are there varied conditions for spending time in public spaces at different times of year? With this in mind, where are the seating options placed? Are they located entirely in the shadows or the sun? And how are they oriented/ placed in relation to wind? Are they protected?</p>	<p>Experience of aesthetic qualities and positive sensory experiences.</p> <p>Is the public space beautiful? Is it evident that there is good design both in terms of how things are shaped, as well as their durability?</p>

## APPENDIX II GEHL ANALYSIS FINDINGS



Site One was the area surrounding Tam O'Shanter Park and Bennett Elementary.

Protection	Traffic 1	Harm From Others 2	Unpleasant Sensory Experience 2
Comfort	Mobility 2	Places to Stand and Linger 2	Area for Sitting 2
Comfort	Options for Seeing 2	Options for Talking/Listening 2	Options for exercise and play 3
Enjoyment	Scale 3	Opporunity to Enjoy Climate 3	Aesthetic + Positive Sensory Experience 3

Site One Overall Score: 2.20

Protection 1.60

Comfort: 2

Enjoyment: 3



Site Two was the area surrounding Tam O'Shanter Golf and Country Club.

Protection	Traffic 3	Harm From Others 3	Unpleasant Sensory Experience 3
Comfort	Mobility 3	Places to Stand and Linger 3	Area for Sitting 2
Comfort	Options for Seeing 3	Options for Talking/Listening 3	Options for exercise and play 3
Enjoyment	Scale 3	Opporunity to Enjoy Climate 3	Aesthetic + Positive Sensory Experience 3

**Site Two Overall Score: 2.92**  
**Protection 3**  
**Comfort: 2.80**  
**Enjoyment: 3**



Site Three was the area surrounding Ardmore Park.

Protection	Traffic 1	Harm From Others 2	Unpleasant Sensory Experience 1
Comfort	Mobility 1.5	Places to Stand and Linger 1	Area for Sitting 1
Comfort	Options for Seeing 2	Options for Talking/Listening 1	Options for exercise and play 2
Enjoyment	Scale 1.5	Opporunity to Enjoy Climate 2	Aesthetic + Positive Sensory Experience 2

**Site Three Overall Score: 1.50**  
**Protection 1.33**  
**Comfort: 1.42**  
**Enjoyment: 1.83**



**APPENDIX III**  
**WALKABILITY FOCUS GROUP OUTLINE**  
**10/26/18**

Introductory Questions

1. When you think of Northeast Bellevue, what comes to mind to describe your neighborhood?
2. How long have you lived in the Northeast Bellevue neighborhood?
3. What major changes have occurred in the neighborhood, either physically or socially, in recent years?
4. What aspects (places, landmarks, etc.) of the neighborhood do you identify most closely with?
5. What makes you most proud about living in Northeast Bellevue?

Mobility Questions

1. How do you get around your neighborhood?
2. How welcoming/accessible do you find the current infrastructure in Northeast Bellevue to different forms of mobility (i.e. walking, biking)?
3. Are there things you are dissatisfied with? What would you like to see changed?
4. What is an area in which mobility should be improved?
5. How many times a week do you walk in Northeast Bellevue?
  - a. Where do you walk to?
  - b. Do you walk for recreation or for transportation?
  - c. Are there areas you don't feel safe walking in Northeast Bellevue? Why?
    - i. Does the time of the day affect this?
6. How many times a week do you bike in Northeast Bellevue?
  - a. Where do you bike to?
  - b. Do you bike for recreation or for transportation?
  - c. Are there areas you don't feel safe biking in Northeast Bellevue? Why?
    - i. Does the time of the day affect this?

7. Do you have any children? Do you feel safe having them:
  - a. Walk/play outside?
  - b. Walk/bike to school?
8. Big picture: How do you envision your neighborhood to look ten years from now?